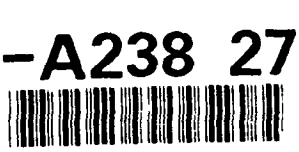
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THESIS

ANALYSIS OF THE ATTRITION REPORTING SYSTEM IN NAVY TECHNICAL TRAINING

by

Robert L. Firehammer

June 1990

Thesis Advisor: Alice M. Crawford

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Firehammer, Robert L.

Master's Thesis		1990, June	

The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

	Attrition Reporting; "A" School; Decision Making; "C" School; Training; Academic Review Boards

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1. Do differences exist between the schools' ARB procedures which could promote either inaccurate or decreased standardization in attrition reporting?
2. How much agreement is there among the ARB members concerning the evaluation of student factors for a given type decision?
3. What other information can be captured that sheds light on the attrition process?

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19 Continued:

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1. ARB procedures differ across schools.
2. There is moderate to high levels of agreement concerning the value certain student factors bring to the decision process.
3. Some of the ARB members perceive that the command policy has changed from producing high quality technicians to reducing their school's attrition rates.

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Analysis of the Attrition Reporting System in Navy Technical Training

by
Robert L. Firehammer
Lieutenant, United States Navy
B.S., Western Michigan University, 1982

Submitted in partial fulfillment of the requirements for the degree of

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ABSTRACT

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1. Do differences exist between the schools' ARB procedures which could promote either inaccurate or decreased standardization in attrition reporting?

2. How much agreement is there among the ARB members concerning the evaluation of student factors for a given type decision?

3. What other information can be captured that sheds light on the attrition process?

The results from the study revealed several items:

1. ARB procedures differ across schools.

2. There is moderate to high levels of agreement concerning the value certain student factors bring to the decision process.

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I. INTRODUCTION

The Department of Defense (DoD) provides a wide variety of training that ranges from recruit training for initial acclimation to military life, to professional development and education. Active and reserve student training loads in DoD have steadily increased from 225,900 in 1980 to an anticipated total of 233,900 for FY91. [Ref. 1:p. 7] The Navy's student loads have remained fairly steady since 1985 with a current projected load of 66,200 for FY 91 and FY92. [Ref. 1:p. 6]

Navy enlisted training comprises two major areas, recruit training and specialized skill training. Specialized skill training is further divided into initial skill training and progression skill training. [Ref. 1:p. V-4] Initial skill training is the equivalent to Navy "A" school training. For the most part, new recruits do not already posses the skills required by the Navy to operate effectively. Therefore, most graduates from Recruit Training Commands (RTCs) go directly to "A" schools to receive specialized skill training.

"A" school training is the most cost-effective means of training recruits for most of their initial assignments in the fleet. [Ref. 2:p. 14] The projected student input totals for "A" school attendance are 128,049 for FY91 and 126,603 for FY92. However, the projected graduation totals are 117,411 and 116,161, respectively, for the same time period. [Ref.

1:p. V-5] The difference of the two totals (over 10,000 students for each year) represents a significant loss of resources in the form of student drops from training.

"A" school attrition affects the Navy in several ways. First, managers of enlisted ratings need a reliable source of newly-trained sailors to replace the fleet sailors who are due for rotation or discharge. Additionally, "A" school attrition requires recruiting commands to achieve higher recruit totals in order to maintain acceptable rate end-strength levels. Those losses in training and increases in recruiting goals represent a significant loss in resources. Lost resources include student pay, student travel costs, instructor and school administrator pay, as well as the lost productivity of the students and instructors while the students are in the training status.

"A" school attrition has its most deleterious affect on enlisted ratings that require pipeline training courses to achieve a final rating classification. An individual designated for a particular rating may attend several schools before reaching his/her final duty station. The sum of the attrition at those schools equals the pipeline attrition rate. Considering the average attrition rate for an initial skill school is eight percent, the sum of four schools with an average attrition rate would result in a pipeline attrition rate of 32 percent.

In relation to "A" schools, "C" school attrition is not a major concern. The current average of "C" school attrition is three percent. There are some significant differences between "A" school students and "C" school students, which might explain the differences in average attrition rates. "A" school students usually come directly from RTCs, most are 18 to 20 years of age, they have not fully acclimated themselves to the military way of life they may not possess the discipline to succeed in the military training environment, and as the training progresses they may question their desire to obtain that particular skill. Conversely, "C" school students usually come from fleet units, they have already completed their initial skill training, and have added fleet experience to that knowledge base. These students have been closely evaluated by their superiors in the fleet and have been recommended for follow-on training. Consequently, when "C" school students arrive for training, most have the maturity, discipline, and motivation to complete their course of instruction.

Thus, the Navy's concern for attrition from specialized skill training is focused primarily on the "A" schools where student losses are the highest. Considerable attention has been paid to reducing "A" school attrition through research and development, and a working group was formed to address the problem.

Most of the research on "A" school attrition has looked at the effects that student characteristics such as mental ability and level of education have on academic and nonacademic attrition. [Refs. 3,4] Other studies have examined the role technical and non-technical courses have on academic and nonacademic attrition patterns, as well as the proportion of students dropped from training who are then reclassified into another rating or are sent directly to the fleet as an un-designated general detail (GENDET). [Refs. 5,6]

In 1987, the Chief of Naval Education and Training (CNET), established a "Model Schools Program." [Ref. 7] The intent of the program was to improve training by

> ...bringing available resources into contact with a Navy school and collectively working together with the school management staff to identify problems that impede school success and develop solutions that can be implemented by the school staff. [Ref. 8]

The EM-A school was designated as the first model school with the idea that activities used to improve training in this environment could be transitioned to other technical training schools. Given the broad spectrum of improvements introduced to training in the model schools context, reduced attrition would not be an unexpected result for the schools that become part of the program.

Another CNET group, the Training Efficacy Quality Management Board, sponsors and distributes a lessons-learned letter to its training commands. The letter is a compilation

of the effective actions taken by the commands that have been successful in curbing their schools' attrition. The letter allows the schools to review the actions taken by other schools. [Ref. 9]

The purpose of the present research effort is to explore how decisions are made to drop students from training, and to determine if there is standardization in the decision making process. Accuracy and standardization in these decisions are essential in order to develop appropriate programs to reduce attrition.

A. BACKGROUND

Navy training commands provide instruction for a wide variety of technical and experience levels. Training levels range from apprentice training "A" schools to NEC-producing "C" schools and highly technical "F" schools. The Chief of Naval Education and Training (CNET), and the Chief of Naval Technical Training (CNTT) have provided instructions to their subordinate Commands concerning all training-related issues. However, individual Training Commands may adjust that guidance to fit their particular environment. Each individual "A," "C" or "F" school has a Director of Training, who reports to either the Officer in Charge of Training or the Commanding Officer of the training command, depending on the size of the command. The Director of Training is responsible for the administration and performance of the school.

"A" school student enrollment is comprised primarily of students coming directly from the Recruit Training Commands (RTCs), although a small percentage comes from fleet units. Each student must meet some minimum entrance requirement to be admitted into the school--usually a minimum total Armed Forces Vocational Aptitude Battery (ASVAB) score or a minimum score on one of the ASVAB sub-tests. The newly reporting student participates in school indoctrination, which may last from several days to three weeks depending on the school and the student. Part of the indoctrination phase may require a battery of reading and arithmetic tests. The schools use these tests to determine the student's knowledge of the basic skills, which are necessary to complete the training program. Students who do not pass these exams remain in the indoctrination phase and receive remediation on their skill deficiencies. Students who fail remediation do not continue with the training pipeline and eventually are reassigned to other duty. Students who continue with training are assigned to an academic class and a military company.

The military side of "A" school training is the "A" School Military Training Company (ASMT), formally known as the Integrated Training Battalion (ITB). The ASMTs provide the students with a continuation of the general military training and physical fitness conditioning they received as recruits. Students assigned to the ASMT must muster with their divisions at predesignated times; students living with their spouses do

not report for the first muster. The student's responsibilities to the ASMT company include space cleanliness, mustering, room and personnel inspections, marching to meals and class as a division, and physical training. Also, the students perform watch-standing and collateral duties that will prepare them for their follow-on fleet assignments. [Ref. 10:pp. 3-1--5-3]

ASMTs may be composed of several companies with each tied directly to a specific academic school. The "A" School company commander is usually a Chief Petty Officer. The ASMT company commanders report to their respective Directors of Training or Division Officers. The "A" School companies maintain a record on each student consisting of all the military training the student receives, any violations of school policy, military deficiencies, and any other personal information that may seem necessary. If a student commits an offense against school policy, he/she may go before a military review board (MRB). The MRBs are used to correct the student's military deficiencies; however, if the problem persists, the board can recommend the student be dropped from training. Offenses of a more serious nature are handled at Officer in Charge Mast or Captain's Mast; both can result in dropping a student from training.

The academic curriculum of an "A" school may be divided into phases. The school may have both military instructors, usually Second Class Petty Officers and above, and contracted

civilians. The instructors teach just one segment of the training phase. A training phase may be made up of many training segments. Students are tested upon completion of each segment of training. Students who fail the test receive remediation including a reexamination. Students who pass remediation usually continue with their class, students who fail receive a mandatory Academic Review Board (ARB). [Ref. 11:pp. 2-3]

1. Academic Review Boards

"All Apprentice Training, Class 'AP,' 'A,' and NEC awarding 'C' schools are required to convene ARBs for attrition and setback decisions." [Ref. 11:p. 2] The stated primary function of the ARB is to enhance student academic progress and to deter student failure. Along with that primary duty, the board must make an unbiased determination of whether the student has the motivation and ability to complete the training. [Ref. 11:p. 1] An ARB is initiated by the student's Phase Chief at the request of the student's instructor for a given training segment. An ARB may be convened for any one of the following five reasons: (1) the student is recommended for acceleration through training; (2) the student fails to meet course learning objectives and after remedial study fails the retests; (3) the student continually fails course learning objectives, even though he/she passes all remedial exams; (4) the student's laboratory performance is consistently below standard; or (5) the student fails

remediation for a learning objective following an ARB recommendation to continue with the class. [Ref. 11:pp. 2-3]

The ARB consists of four members chosen from the instructional staff, which includes officer and enlisted instructional/supervisory personnel, classroom and learning center instructors, and education/training specialists. Supervisory personnel who have command designated authority for approval/disapproval of ARB recommendations may not sit as members of the ARB. Those personnel responsible for completing student personnel and reclassification actions may not sit as ARB members. [Ref. 11:pp. 1-2] The board is chaired by the senior member and there are two other voting members as well as one non-voting recorder. After examining all the available relevant data, the board conducts an interview with the student. During the interview, the board attempts to gain information on any problems the student may be having that could cause the student's academic problems. Once the ARB is satisfied that they have reviewed all the available information, the board makes a recommendation on the student's future training status. If the board is able to determine the student's problem, it can initiate appropriate corrective actions. However, the board must make one of four recommendations: (1) continue the student with class, with or without remediation; (2) setback to the next class, with or without remediation; (3) accelerate to the next class; or (4) drop from training.

If the board's recommendation is to drop the student from training, it must also make a further recommendation to transfer the student directly to the fleet as a general detail (GENDET), reclassify the student to another rating, or separate the student from service. For the board to recommend that the student continue with the class or setback to another class, there must be clear evidence that the student has the ability and the motivation to complete the training. To recommend a student be dropped from training, the student must show an unwillingness or an inability to complete the training. [Ref. 11:p. 5]

The ARB's recommendation is accompanied by a student action code (SAC). The SAC is a three digit code that indicates the type of action taken by the board and in those cases when a student is dropped from training, the SAC will also indicate why the student was dropped. The student action codes were expanded on 1 October 1990 by CNET to give a more accurate picture of school attrition patterns. The SACS are separated into two categories, academic and nonacademic. The nonacademic category is further separated into sub-categories for motivation, medical, and administrative and disciplinary reasons. When a school drops a student from training, the board may give an academic SAC or a nonacademic SAC from the motivation category.

All academic student actions require an ARB, and CNTT Instruction 1540.46A provides guidance about special

circumstances that may cause training commands confusion about whether to take the student to an ARB or not.

> Any decision made concerning a student's training status which is made without the student being present should be construed as an administrative action and not an action of an ARB. Such administrative actions should be limited to cases involving legal, medical, and administrative holds or interruption of training, and to cases dealing with unauthorized absences, other disciplinary offenses or attrition which required by higher authority, such as fraudulent enlistment or other administrative or medical causes. [Ref. 11:p. 2]

After the ARB makes a recommendation, the student's case is forwarded up the chain of command. Setbacks can be approved by the Director of Training. Recommendations to drop a student must be approved by the Commanding Officer. If the ARB recommendation is approved by the Commanding Officer, the SAC is entered into the Navy Integrated Training Administrative System (NITRAS) database, which is updated daily.

NITRAS is the database for all Navy training. It consists of four sub-files; the master course reference file, the student master file, the training summary file, and the pipeline management file. The database provides Naval training administrators a means to track the progress of students' training through their Naval careers. The data can be aggregated by school to determine attrition and setback patterns for every course offered.

The accuracy of the attrition information that is input into the database is directly related to the care of the ARB procedures and the proper assignment of SACs by the

individual training commands. The concern over the accuracy of the NITRAS database is reflected by the following extract from a CNTT instruction:

> The accuracy and care involved in student coding at the ARB level is fundamental to the creation of an accurate and meaningful data base of attrition information. This information may be used as a basis for administrative and management decisions and research studies, and it may influence assignment procedures. [Ref. 11:p. 3]

The accuracy of these data will be addressed in this thesis in the context of decision making at ARBs.

2. Decision Making

Ideally, to achieve accurate and standard decision making from one ARB to the next, there would be a black box into which all the student information could be put, and it would generate an appropriate decision that could be repeated from student to student. However, Naval training schools do not have a black box, they rely on a small group to decide what appropriate action should be taken concerning a given student. Because of this, individual differences and group dynamics become a part of the decision making process.

The problems associated with group decision making are well documented. In one example concerning the "Bay of Pigs" incident in 1961, several influential members of President Kennedy's advisory group had negative information or ill feelings about the undertaking but because of the group dynamics (e.g., a subtle pressure toward conformity), never voiced their concerns. [Ref. 12:p. 136] The dynamics that

may affect group decision making can be separated into three factors: (1) input variables that have potentially negative effects on group processes, (2) conformity, and (3) polarization. Input variables include task norms, group communication patterns, perceived status of other members, individual personality characteristics, and group experience. [Ref. 13] For example, the group decision making process may be affected through inadequate knowledge of the organization's goals, thereby focusing a group's actions on the wrong input variables. Poor communication patterns within a group may induce some members to unknowingly withhold information. An individual's self-esteem and the degree to which he/she values others' opinions can lead to other types of problems associated with group decision making like conformity and polarization. Conformity affects individuals by shifting their opinions to be more like those of the group. Polarization works by driving the group member's opinion in the direction of his or her initial opinion. [Ref. 13:pp. 136-137]

The problems confronting group decision making would surely apply to the ARB process. During the ARB, each voting member has one vote and, thus, technically equal power to influence the board's recommendation. Ideally the board's decision is made free of any influences other than those brought to the board, i.e., the student's academic record and the results of the board's interview with the student.

However, there may be other influences, some outside the board and some within the board, that affect the board's ultimate recommendation. For example, serving as the chairman may give that individual some influence over the other board members. By instruction, the chairman is the senior member present and may be an immediate superior to one of the other board members. One board member may influence other board members because of his strength of conviction. One or more of the board members may empathize with the student's plight due to having similar demographic characteristics or background. Those people to whom we believe ourselves similar elicit an empathetic response, whereas those to whom we do not believe ourselves similar do not. [Ref. 13:pp. 89-92] Individuals with approval/disapproval authority may influence the board's decision through actions on past board recommendations, or through other forms of communication of their wishes. Perceptions of the school's effectiveness by external and internal organizations may influence the board's decision.

B. RESEARCH QUESTIONS

The present research was initiated because of CNTT's concern over the accuracy and standardization of attrition reporting by their "A" schools and NEC-awarding "C" schools. Accuracy in attrition reporting is essential to maintaining an effective NITRAS database.

ARBs have a finite group of decisions to make on a student's training status, the most significant being to setback the student or drop the student from training for either an academic or a nonacademic reason. The distinction between academic and nonacademic reasons is significant because it may affect whether a student will be permitted to reclassify into another rating or transfer to the fleet as a GENDET. Furthermore, any variation in the decision making process among different boards, schools, and training commands will affect the accuracy of the NITRAS database. This could create unintended results when changes are implemented in a school to address a perceived academic or nonacademic attrition problem.

In response to CNTT's concerns, three questions are examined:

1. Do differences exist among the schools' ARB procedures that could promote either inaccuracy or decreased standardization in attrition reporting?
2. How much agreement is there among the ARB members concerning the evaluation of student characteristics for a given decision?
3. What other information can be captured that sheds light on the attrition ARB decision?

By determining how school personnel make their decisions during the ARB process, information can be acquired that will help improve attrition reporting accuracy and standardize attrition reporting among the various CNTT controlled schools.

II. METHODOLOGY

A. SUBJECTS

The subjects of this study were the ARB members from eight "A" Schools and the Advanced Electronics School (AES), which incorporates many of the electronic "C" Schools. Seven of the "A" Schools and AES are part of Service School Command (SERVSCHLCOM), in San Diego, California. The other "A" School is Data Systems "A" (DS-A) school, which is part of Combat Systems Technical School Command located at Mare Island, California. SERVSCLCOM, is the largest training command that provides initial skill training on the West Coast. It is home for the following "A" Schools: Radioman "A" (RM-A), Interior Communications "A" (IC-A), Data Processor "A" (DP-A), Mess Specialist "A" (MS-A), Molder "A" (ML-A), Pattern Maker "A" (PM-A) and Machinery Repairman "A" (MR-A). The output from the seven "A" Schools represents 20 percent of the FY89 graduation total for all CNTT controlled "A" Schools. [Ref. 14] RM-A and IC-A are among 15 "A" schools that have the highest attrition rates.

The study surveyed 91 ARB members, who represented varying percentages of their school's instructional staff. The representation ranged from 5.3 percent from the AES to 71.0 percent for IC-A school. Appendix A provides a complete list of the school's instructional staff representation. However,

not all the instructional staff may be qualified to sit on an ARB. Discussion with the various school representatives indicated that the study captured most of the eligible ARB members associated with the respective schools.

The ARB members averaged 14 years of service with 25 months at their present command. Forty seven percent of the respondents were Second Class and First Class Petty Officers, 32 percent were Chief Petty Officers, 17 percent were Senior Chief and Master Chief Petty Officers, and four percent were Warrant or Line Officers. Additionally, their ARB experience averaged over 75 ARBs and those who had experience as the chairman had over 40 ARBs in that capacity.

The ARB members were separated into four groups for the analysis (see Table 1) because several schools (ML-A, MR-A, PM-A, DP-A) are small and have few ARB members. The criteria for grouping the schools were based on those schools that have a similar chain-of-command, i.e., those schools that reported to the same Officer in Charge (OIC). At SERVSCHLCOM, ML-A, MS-A, MR-A, AND PM-A are classified as 3300 level schools and report to the same OIC; IC-A and DP-A also have a similar chain-of-command and report to the same OIC. The information gathered from DS-A school was evaluated only with respect to ARB procedures.

TABLE 1

SCHOOL GROUPINGS

Group 1	RM-A
Group 2	IC-A, DP-A
Group 3	(3300 Level) MR-A, MS-A, PM-A, ML-A
Group 4	AES

B. QUESTIONNAIRE

The ARB members responded to a 29 item questionnaire, which is presented in Appendix B. The design of the questionnaire was based on information gathered from two sets of interviews with the ARB members from DS-A School. The first set of interviews was conducted to gather information about ARB procedures. The second set of interviews included observation of several ARBs and follow-up questions between each board to further define the student characteristics being considered when evaluating each student. Uncertainties in the wording of some questions on the questionnaire were examined with assistance from CNTT.

C. PROCEDURE

The questionnaires were administered to ARB members at the four groups of schools on separate days. The respondents received an initial briefing on the purpose of the study, with specific emphasis on the study objectives. Subjects were encouraged to add relevant information that had not been

included on the questionnaire. No time limit was set on completing the questionnaire, however, all respondents had to complete it before leaving the room.

The first four questions required the respondents to evaluate nine student characteristics shown in Table 2, specifically focusing on the value each factor contributes to the decision making process. The values for the responses ranged from 1 = not at all important--rarely used, to 5 = extremely important--critical factor. The nine factors were evaluated over four possible types of decisions: (1) to drop a student from training for academic reasons, (2) to drop a student from training for non-academic reasons, (3) to setback a student for academic reasons, and (4) to setback a student for non-academic reasons.

The remaining 25 questions asked the respondents to elaborate on how they judge certain student characteristics, how their decision process works, and how their organization's ARB and attrition reporting system works.

TABLE 2

STUDENT CHARACTERISTICS CONSIDERED BY ARB MEMBERS

1.	Academic record	acadrec
2.	Military record	milrec
3.	Personal information about the student	persinfo
4.	ASVAB scores	asvab
5.	Amount of night study	nghtstdy
6.	Recommendations made to the board	rectobrd
7.	Professional judgement about whether the student will make a good sailor	prfjdgment
8.	Student attitude/motivation	stdtmot
9.	High school graduate (or not)	hsdg

III. RESULTS AND DISCUSSION

The results of this study are presented in the context of the three study questions proposed in the introduction:

1. Do differences exist among the schools' ARB procedures that could promote either inaccuracy or decreased standardization in attrition reporting?
2. How much agreement is there among the ARB members concerning the evaluation of student factors for a given ARB decision?
3. What other information can be captured that sheds light on the attrition process?

A. PROCEDURAL DIFFERENCES

A number of distinct differences were found among the schools' ARB procedures, which could potentially affect the standardization of attrition reporting. The information addressed in this section was gathered in part from general discussions with school personnel. Additionally, some of the data generated by the questionnaire that was administered (see Appendix B) are presented here. Differences among specific schools are included where they are relevant to the discussion.

Who is present at a student's ARB may affect the board's decision. In addition to the required board composition, some schools have the student's instructor present to elaborate on his/her recommendations concerning the student's academic

abilities and to answer other specific questions that may shed more light on the student's problems.

Just as important in influencing a board's decisions are those incidents that limit the board's make-up, i.e., assigning one to two individuals as permanent chairman for all ARBs. The chairman of an ARB has positional power over the other board members and in that capacity might exert more influence over the board's decision. Therefore, the ARB's decisions over time could reflect individual biases that those members would consistently bring to each ARB.

The manner of conducting an ARB may also affect a board's decision. Some of the schools conduct their ARBs in a relaxed, congenial atmosphere. This is done in an attempt to promote a more open discussion with the student, which would allow the board to accurately assess the student's problems and future potential. Some schools use a checklist to evaluate their ARB's conduct and procedures. This evaluation by the school's instructional staff occurs several times each month.

The length of an ARB can vary from board to board, the shortest board may last only a couple of minutes, while some boards last as long as one and a half hours. Table 3 shows the average length of time an ARB usually lasts for a given student. On average, 70 percent of the boards lasts between 10 and 30 minutes, 26 percent lasts longer than 30 minutes,

while approximately three percent of the boards lasts less than ten minutes.

TABLE 3

AVERAGE LENGTH OF AN ARB
(Question 13)

During an ARB, about how much time is spent on each student? Give a range (max/min) and an average.

less than 10 minutes	3.5%
10 to 20 minutes	36.8%
20 to 30 minutes	33.3%
30 to 40 minutes	13.8%
greater than 40 minutes	12.6%

* Percentages based on 87 responses.

As noted earlier, the student's time is divided between academic classes and duties in the ASMTs. However, not all schools consider the student's military performance to the same extent at an ARB. Some schools have ASMT instructional staff sit on the ARBs as voting members. These schools believe they receive more information and can make a more accurate determination about the student's training status.

Another indication of a school's evaluation of the student's military performance is the amount of communication between the academic sections and the ASMTs. From Table 4, it can be seen that RM-A school and IC/DP-A school have the least amount of communication with their associated ASMTs.

Conversely, the 3300-level schools have considerable communication with their ASMT. The AES reported the most communication with their associated military side, however, the "C" schools do not have ASMTs. They may be responding with respect to their accessibility to the student's service record.

TABLE 4

COMMUNICATION BETWEEN ACADEMIC SCHOOLS AND ASMTs (Question 25)

How much communication is there here between the Military Training Divisions and the academic sections on student progress?

	RM-A	IC/DP-A	3300	AES
None	61.5%	14.6%	6.2%	11.1%
Occasional	38.5%	56.2%	25.0%	0%
Considerable	0%	29.2%	68.8%	88.9%
N	13	41	16	9

One of the important decisions a board must face is whether to setback a student or drop that student from training. Usually, before a student is dropped from training he/she will be setback at least once. The number of setbacks a student receives will vary depending on the individual case. However, the likelihood of setting back a student may also vary by the school. Table 5 presents the number of setbacks

a board member would give to a student before deciding to drop that student from training.

TABLE 5

MAXIMUM NUMBER OF SETBACKS
A BOARD MEMBER WOULD GIVE (Question 27)

What is the maximum number of setbacks you would give any student?

	RM-A	IC/DP-A	3300	AES
No setbacks	8.3%	2.1%	11.8%	9.1%
One setback	8.3%	0	35.3%	45.4%
Two setbacks	58.3%	38.3%	29.4%	36.4%
Three setbacks	25.0%	57.5%	23.5%	9.1%
More than three	0	2.1%	0	0
N	12	47	17	11

The table shows that the majority of the RM-A school members prefer to give the student two setbacks. The IC/DP-A school favors setting the student back three times before dropping that student from training. The 3300-level schools and the AES are less certain, with both schools slightly favoring just one setback before dropping the student. In some cases, when it seems obvious that the board will decide to setback the student, the student is physically setback to the next class prior to the board convening.

The last item a board must consider is the assignment of the SAC. The accuracy of assigning the SAC is essential for

maintaining an accurate NITRAS database. However, Table 6 shows a wide range of knowledge about student action codes across the schools. The table has three categories: (1) No problems with SACs, (2) found SACs confusing, and (3) no knowledge of SACs. Many of the ARB members who found the SACs hard to use had problems with only a small number of the many SACs provided.

TABLE 6

ARB MEMBER'S KNOWLEDGE
OF STUDENT ACTION CODES (Question 19)

Which of the SACs are confusing or hard to use in any way, and why?

	RM-A	IC/DP-A	3300	AES
No problems with SACs	25.0%	52.6%	53.3%	20.0%
SACs are confusing	8.3%	23.7%	26.7%	0%
Do not use or have no knowledge	66.7%	23.7%	20.0%	80.0%
N	12	38	15	10

Some of the lack of knowledge concerning the SACs may be due to the fact that at some ARBs the chairman is the only member who assigns the SAC based on board recommendations. Additionally, some of the board members stated that they did not evaluate their students for nonacademic reasons and therefore could not give a nonacademic SAC even though the

nonacademic SAC may have been more appropriate for that particular student. Although, at one of those schools which the board members reported not using nonacademic SACs, the chairman does assign nonacademic SACs.

B. AGREEMENT IN DECISION MAKING

Besides procedural differences, differences in the ARB members' opinions about the importance of certain student factors for making a decision about a student may also contribute to either a lack of standardization or inaccurate attrition reporting. These factors were mentioned in Chapter II, e.g., the student's academic record, recommendations made to the board, etc. If there is little agreement among the board members, then it is highly likely that there is a great amount of variation in attrition reporting. There is a finite amount of information the ARB has available by which it can evaluate a student. Therefore, differences between the ARB's weighing of a student factor from one set of ARB members to another may elicit varied decisions.

Two sets of analyses were performed on the data. The first analysis consisted of the Friedman Two-Way Analysis of Variance by Ranks. This test determined whether the ARB members value all the student factors equally or if they give some factors more weight than others. The values for the nine student factors were ranked for each ARB member and then the mean rank for each student factor was calculated. In this

case the most highly valued student factor could receive a 9.0, while the least valued student factor could receive a 1.0. From the mean ranks, a test statistic with an approximate Chi-square distribution was calculated with the following formula:

$$\chi^2 = \frac{12}{Nk(k+1)} \sum_{j=1}^{k} (r_j)^2 - 3N(k+1)$$

where:

N = number of ARB members,

k = number of student factors, and

R = sum of ranks in jth column. [Ref. 15:pp. 167-171]

The second analysis run was the Kendall's W Coefficient of *Concordance*. Kendall's W served as a measurement of agreement among the raters concerning the importance of the given student factors. A Kendall coefficient of W = 1.0 would indicate that there is perfect agreement among the raters. Conversely, a coefficient of W = 0 would indicate that there is no agreement. The procedures for calculating Kendall's W are similar to the Friedman test except that after the mean ranks are calculated, the sum of squares of the observed deviations from the mean ranks are calculated. From that information, Kendall's W may be calculated by the following formula:

$$W = \frac{S}{\frac{1}{12}k^2(N^3 - N)}$$

where:

s = sum of squares of the observed deviations from the mean of R_j,

$$s = \sum (R_j - \frac{\Sigma R_j}{N})^2$$

k = number of ARB members.

N = number of student factors judged.

R_j = sum of ranks, j = 1 to 9. [Ref. 15:pp. 229-237]

The analysis of agreement data will be presented for each of the four types of decisions from command-wide rankings, and then repeated by individual school groups.

1. Analysis of Command-Wide Responses

The first set of analyses considered the responses command-wide, i.e., schools were combined. The results are shown in Table 7. The Friedman's Test indicated that the ARB members do not value all of the student factors equally. In other words, there are significant differences in the level of importance assigned to student factors for each of the four types of decisions. The data in Table 7 show the relative rank followed by the mean rank of each student factor for a given decision (1-9 with 1 as the most important for the relative rank). In order to make easier comparisons of the mean ranks with the relative rankings (i.e., a relative ranking of 1.0 = the most important student factor), the mean rankings were subtracted from 10.0. The discussion of the

data in Table 7 will begin with the rankings of the student factors, followed by a more detailed discussion of specific student factors, and finally a discussion of the levels of agreement among the ARB members.

TABLE 7

RELATIVE AND MEAN RANKINGS
OF STUDENT FACTORS FOR TYPE OF DECISION

Student	Academic setback	Nonacademic setback	Academic drop	Nonacademic drop
acadrec	2/2.77	6/5.17	1/2.24	6/5.42
milrec	7/5.68	2/3.59	7/5.80	2/2.44
persinfo	4/4.89	3/3.87	5/5.04	3/3.73
asvab	8/6.23	8/7.40	8/6.44	8/7.41
nghtstdy	3/4.70	7/6.05	3/4.54	7/6.38
rectobrd	5/5.10	4/4.09	4/4.88	5/4.61
prfjdgmnt	6/4.26	5/4.51	6/5.36	4/4.49
stdtmot	1/2.29	1/2.39	2/2.54	1/2.27
hsdg	9/7.97	9/7.93	9/8.16	9/8.26
N	89	76	88	75
df	8	8	8	8
Friedman's Chi square	270.04	269.84	209.06	345.28
Kendall's Coefficient	.42	.50	.50	.64
Chi square	302.22	301.44	354.88	385.36[1]

[1] All values are significant $p < .01$.

The ARB members ranked the student factors similarly for similar type decisions, i.e., the student factors for academic setback and academic drop from training had similar ranks, as did the ranks for the nonacademic setback and nonacademic drop from training type decisions. For the academic type decisions, the student's academic record and attitude/motivation received similar mean ranks and were ranked much higher than any other student factor considered. In other words, academic record and motivation were ranked as the most important factors to consider when making a decision to setback or to drop a student for academic reasons.

For the nonacademic type decisions, the student's attitude/motivation was the most important factor for both nonacademic decisions. The student's military record was ranked very closely to student motivation for the nonacademic drop from training decision, and to a lesser extent for the nonacademic setback decision. Also, personal information was valued more strongly than the other student factors for the nonacademic type questions. Several student factors were ranked very closely together and comprised a mid-ranged group for a given type decision. The mid-ranged group included the remaining student factors, with the exceptions of those noted above, and the two lowest ranked student factors. The student's ASVAB scores and whether or not the student was a high school graduate (HSDG), were consistently ranked as the least important student factors.

The student's motivation was ranked the highest for three of the four possible decisions and it was ranked second for the fourth decision. Even though there is agreement about the value of evaluating student motivation (as will be shown below in the discussion of Kendall's coefficient), it is a highly subjective judgment that is rated by a number of different factors by the ARB members. There were over 25 different responses on what constitutes attitude/motivation. Table 8 presents the most common responses, by percentage of the total number of 210 responses received. Many of the ARB members gave more than one response.

TABLE 8

HOW MOTIVATION IS JUDGED
(Question 9)

How do you judge motivation (besides night study).

Participation in class	25%
Seeking help from instructors	19%
Completing homework	17%
Demonstrates extra effort	15%
Comments from instructors	10%
Rewrites class notes	7%
Miscellaneous	7%

Class participation was the most frequently mentioned measure of student attitude. It is followed by the group of

measures shown on the table. Other, less common responses included whether or not the student makes eye contact at the ARB, how sharp the student looks in uniform, and the "gut feeling" of the ARB member.

The student's ASVAB scores were ranked very low in importance for any type of decision being made. This seems surprising because the ASVAB scores are used as an entrance screen for most schools. Table 9 presents the responses for concerning the usefulness ASVAB scores are in determining if the student's academic problems are legitimate or really a lack of motivation. The data are based on percentages of the 91 people who responded to the question. Over half of the respondents thought a student's ASVAB scores would be useful in judging student motivation. However, this contradicts the low mean rankings given to it by the same individuals.

TABLE 9

VALUE OF THE STUDENT'S
ASVAB SCORES TO THE ARB (Question 6)

Do ASVAB scores help you determine whether a student's academic problems are real or due to lack of motivation?

ASVAB scores are helpful	52.6%
ASVAB scores are not helpful	36.8%
Not sure	10.6%

It would appear that, conceptually, ARB members see value in ASVAB scores as an aid in decision making, which is

reflected in Table 9. However, when compared to other sources of information on a relative basis, ASVAB scores are ranked at a very low level (see Table 7).

The ARBs obtain information about the student from many sources. As stated earlier, some schools have a member of the ASMT's instructional staff sit on the ARBs as a voting member. Other schools call the ASMT whenever the student is having academic problems to discover if the student is also having other problems that may have a contributing influence to the student's academic problems. The ARBs may also have the student's military record present at the board. The student's military record would contain information about the student's military performance, specifically noting any infractions the student might have committed. In some of the smaller schools, the academic instructors usually hear when a student is having problems at the ASMT.

When a student comes before an ARB, one of the first objectives is to determine the kinds of personal problems the student is having, if any. A student's personal problems may include family, financial, and medical problems. Table 10 presents the kinds of personal information that could help an ARB make a decision whether to setback or drop a student. Since ARB members could give more than one answer to this question, percentages are based on 245 responses.

TABLE 10

PERSONAL INFORMATION USED
BY THE ARB (Question 5)

What kind of personal information about the student might help you make a decision during an ARB?

A student's personal problems	56%
Attitude in class, study habits, effort	14%
Background (family, jobs, hometown)	7%
Education background	4%
Misc. (substance abuse, friends, after hours' habits, stress, depression, and goals)	19%

How a student is judged as a future sailor may have an affect on the ARB's decision. This factor was ranked between fourth and sixth as shown on Table 7. Table 11 presents the types of factors considered in making judgments about the student as a future sailor. The ARB members provided over 45 different factors used to make this judgment. The most common responses are shown on Table 11. The percentages shown on the table are based on 250 responses.

As described earlier, these data represent an average of all survey respondents. Thus, the next step in analyzing the data was to investigate the extent to which people agree on this set of averaged rankings. A simple inspection of the data indicates that there is not perfect agreement. For example, while motivation was ranked very highly for three out of

TABLE 11

FACTORS CONSIDERED WHEN MAKING
PROFESSIONAL JUDGMENTS (Question 8)

How do you judge whether someone will make a good sailor?

Shows a positive attitude to complete the training	33%
Motivation, willingness to work, desire to excel, initiative	19%
Appearance and military bearing	17%
Behavior, class performance, study habits, follows direction, night study, asks questions	13%
Military record	7%
Various personality traits	6%
Respectful to seniors	5%

the four decisions, not everyone rated it as first (the values shown on Table 7 range from 2.27 to 2.39). However, it is not clear how much disparity there is.

The Kendall's W provides a quantification on the level of agreement. The Kendall's coefficients ranged from a moderate level of agreement for the academic setback decision W = .42, to a higher level of agreement for the nonacademic drop from training decision W = .64. In other words, the Kendall's Statistic applied to these data indicates that there is a level of agreement that is significant, or non-random, for all decisions. Further, there is a higher level of

agreement among decision makers when dropping a student for nonacademic reasons as compared to other decisions.

2. Analysis of School-Level Responses

The remaining discussion of the level of agreement will focus on the four groups of schools. Particular attention will be paid to any differences that exist between the schools' rankings of the student factors. The Friedman's Two-Way Analysis of Variance by Ranks and Kendall's W Coefficient of Concordance were significant for all schools at the one percent level unless noted.

a. Setback for Academic Reasons

The schools' patterns of ranking the student factors (see Appendix C) were similar to the command-wide pattern. For all schools, the highest ranked student factors were the student's academic record and the student's attitude/motivation. The mid-ranged student factors were also similarly ranked with the exception of RM-A school. RM-A school gave the student's ASVAB scores slightly higher mean and relative rankings. The other schools ranked the ASVAB scores as lowest in importance. Also, RM-A school valued the student's military record and their own professional judgment less than the other school groups.

The levels of agreement within the schools were statistically significant indicating that there is a non-random basis for ranking the student factors among the school's ARB members. The least amount of agreement occurred

within the 3300-level schools (W = .43), while the AES had the highest level of agreement (W = .54).

b. Setback for Nonacademic Reasons

The data tables discussed in this section are presented in Appendix D. The RM-A school data were not statistically significant, most probably due to the small number of respondents, therefore the results from RM-A school will be omitted from the discussion.

The schools' patterns of ranking the student factors were similar to the command-wide rankings, with the exception of the AES. The student's attitude/motivation was the highest ranked student factor for all the schools, and the student's military record was the second highest ranked student factor. The AES agreed with the ranking of the student's attitude/motivation as the highest student factor, but differed on the next two most important student factors. They valued their own professional judgment about the student and, to a slightly lesser extent, recommendations made to the board, much more than the other school groups. The remainder of the mid-ranged student factors were patterned similarly to the command-wide rankings. Also, all the schools ranked the student's ASVAB scores and HSDG as the least important of the student factors.

For this type of decision, the levels of agreement were close to each other and the command wide rating with the

exception of the AES, which had a high level of agreement (W = .73).

c. Drop for Academic Reasons

Once again the schools' patterns of ranking the student factors were very similar to the command-wide rankings (see Appendix E). The student's academic record and the student's attitude/motivation were ranked closely as the most important student factors. The mid-ranged student factors were ranked similarly to the group as a whole, and ASVAB scores and HSDG ranked as the least important student factors among all the schools.

The levels of agreement across the schools varied from RM-A school with the least level of agreement (W = .47) to the highest level at the AES (W = .59). There is slightly more certainty about the ranking of the student factors for the academic drop from training decision than there was for the academic setback decision.

d. Drop for Nonacademic Reasons

The data table summarized in this section is presented in Appendix F. The RM-A school data consisted of only two responses, therefore these results will not be discussed.

The schools' patterns of ranking the student factors closely matched the command-wide pattern of student factor rankings. The student's military record and the student's attitude/motivation were ranked closely and were the

two most important student factors. The schools ranked the mid-ranged student factors similarly, and ASVAB scores and HSDG were the least important student factors.

This type of decision produced the highest levels of agreement among the schools' ARB members. The 3300-level schools had the lowest level of agreement ($W = .62$), while the AES had the most agreement ($W = .77$).

Table 12 summarizes the Kendall's W Coefficient of Concordance statistics for the command-wide analysis and then for each school group. Overall, the analyses of the data from each separate school show the following trends:

1. RM-A school data were omitted from the discussions of nonacademic decisions due to the small number of respondents. RM-A instructional personnel declined to respond to these items because, at their ARBs, they do not evaluate the students for nonacademic reasons.

2. Agreement was only slightly higher within schools as compared to results produced by the command-wide analysis, with the exception of the AES. The AES had consistently higher agreement across all types of decisions.

3. There is more agreement among the ARB members concerning the importance of student factors for the decisions to drop a student from training as compared to setback decisions.

4. There is more agreement among ARB members concerning the importance of student factors for nonacademic as compared to academic decisions.

TABLE 12

AGREEMENT COEFFICIENTS BY SCHOOL GROUP AND TYPE OF DECISION

Decision	Command-Wide	RM-A	IC/DP-A	3300-level	AES
Academic Setback	.42	.45	.46	.43	.54
Nonacademic Setback	.50	.47	.50	.48	.73
Academic Drop	.50	.47	.52	.55	.59
Nonacademic Drop	.64	.79	.65	.62	.77

C. ADDITIONAL ATTRITION-RELATED QUESTIONS

There is a growing concern by people involved with Navy enlisted training that, due to the addition of a SAC for voluntary disenrollment, there will be an increase in the number of students desiring to disenroll from training. A realistic job preview (RLJP) is one instrument that has been used to prevent that situation from occurring by portraying the perspective workplace through lectures, books, videos, etc. The ARB members were asked what effect they thought a RLJP would have in preventing attrition at their school. Their responses are given in Table 13. At least 60 percent of the ARB members thought a RLJP could be useful or would be very useful in preventing attrition at their school. The RLJP received the most support from the 3300-level schools and the

least support from the AES (obviously, a RLJP would have less value in a "C" School).

TABLE 13

VALUE OF A RLJP (Question 29)

How useful would a realistic job preview for this rating be in preventing attrition for any reason?

	RM-A	IC/DP-A	3300	AES
Not useful	15.4%	17.0%	11.8%	40.0%
Could be useful	46.2%	23.4%	11.8%	20.0%
Very useful	38.4%	59.6%	76.4%	40.0%
N	13	46	17	10

How the instructors and ARB members feel about the difficulty of their curriculum may affect their opinions about the students. Table 14 presents the percentages of ARB members who feel that the curriculum at their school is either too hard, too easy, or about right.

TABLE 14

DIFFICULTLY OF THE
SCHOOL'S CURRICULUM (Question 28)

In consideration of what your students will have to do when they eventually perform in their rating, rate the curriculum here.

	RM-A	IC/DP-A	3300	AES
a. too hard	8.3%	31.3%	0	9.1%
b. too easy	75.0%	8.3%	0	81.8%
c. about right	16.7%	60.4%	100%	9.1%
N	12	48	17	11

The final question asked the ARB members whether their school's attrition had gone up, down, or stayed about the same, and why. The responses are presented in Table 15.

TABLE 15

ARB MEMBER'S PERCEPTIONS
ABOUT THE CHANGE IN ATTRITION (Question 24)

In the time that you have been here, has attrition gone up, down, or stayed about the same? Why?

	RM-A	IC/DP-A	3300	AES
Stayed the same	0%	9.8%	29.4%	100%
Down, due to: pressure or lowered standards	83.3%	51.2%	0%	0%
Down, due to: improved students or methods	16.7%	9.8%	64.7%	0%
Gone up	0%	29.2%	5.9%	0%
N	12	41	17	11

About 83 percent of the respondents from RM-A school and close to 51 percent of the respondents from IC/DP-A school indicated that attrition had gone down. The two reasons given for the decline in attrition were lowered grading standards and the pressure they had received from their superiors to lower attrition. Twenty nine percent of the respondents from IC/DP-A school stated that attrition had increased. Conversely, over 66 percent of the 3300-level schools respondents indicated that attrition had gone down due to improved training methods and extra effort from the instructors. All of the AES respondents stated that their attrition has remained about the same.

It is interesting to note that the RM-A and IC-A schools are among the 15 schools that have high attrition, and also have members who are the most concerned about pressure to reduce attrition through reduced lowered standards. These instructors have apparently made some assumptions concerning attrition policy.

While the data collected for the last three questions presented here are only indirectly related to attrition reporting, they are nonetheless highly relevant to the decisions made at ARBs. For example, an instructor who perceives that standards have been lowered to reduce attrition may be influenced in two ways. First, if the instructor believes that standards have already been lowered for course tests (or curriculum), he/she may be more likely to be

unnecessarily stringent in standards applied to the decision to setback or drop. The result could be inappropriate attrition.

On the other hand, if the instructor perceives incorrectly that the concern with reducing attrition is such that it is his/her job to apply lowered standards, that person may play a part in creating a problem that doesn't exist. The result in this situation would be to reduce attrition at the expense of quality student output--the very outcome of concern to a number of the instructors surveyed.

Thus, indirect factors can affect attrition rates in non-optimal ways. These issues would seem to merit additional exploration.

IV. CONCLUSIONS AND RECOMMENDATIONS

This research examined the school's attrition process, specifically focusing on those areas that could result in either inaccurate attrition reporting or decreased standardization among the attrition reporting schools. The study identified three general areas: (1) procedural differences, (2) differences in the levels of agreement concerning various student factors, and (3) ARB member's perceptions.

A. PROCEDURAL DIFFERENCES

The ARB procedures differ across schools. Those differences may contribute to decreased standardization in attrition reporting among the schools. Most of the differences appear to be due to varying interpretations of CNTECHTRA INST. 1540.46A, while others exist because of the school's policy, i.e., the chairman as the only member of assign the SACs, not assigning a nonacademic SAC because it is an Academic Review Board. Further standardizing the ARB procedures and restating the goals of the ARBs should be considered.

B. LEVELS OF AGREEMENT

Without an explicit policy governing what student information should be considered, there exist remarkable

similarities among the schools concerning the value certain student factors contribute to the ARB's decision making process. However, the ARB member's judgment about the characteristics that make-up some of those student factors varies. Also, the ARB members within the schools have moderate to high levels of agreement concerning the importance of the student factors. It is recommended that CNTT evaluate the student information that is currently being considered at the ARBs to determine if this is what ARBs should consider when making a decision to drop a student from training. Further, CNTT could create a rudimentary decision aid highlighting what student information their ARBs should consider and how much weight to assign each piece of information. This type of instrument could help all ARBs to evaluate their students based on a similar scale, and yet still give the ARBs the flexibility they desire to evaluate unique cases.

C. ARB MEMBERS' PERCEPTIONS

The board member's perceptions about the school's effectiveness in performing its mission may affect the accuracy of attrition reporting. Specifically, perceptions about course difficulty as well as perceptions of lowering standards to meet attrition goals may influence instructor morale and ARB decision making.

Finally, the adequacy of current ARB decisions is unknown. It may be that the ARBs are making correct decisions. To determine this, two follow-on studies could be conducted. First, the performance of marginal students, as identified by test scores, could be examined in the fleet. Do they perform as well as the other sailors? Second, the cost-effectiveness of setting back students as opposed to dropping them from training could be examined. Specifically how many setbacks should be given?

This study is the initial attempt at analyzing the intricacies of decision making at ARBs. Follow-on studies should continue this complex analysis and further the efforts of standardizing attrition reporting and ensuring an accurate NITRAS database.

APPENDIX A

INSTRUCTIONAL STAFF REPRESENTATION BY SCHOOL

SCHOOL	TOTAL STAFF	TOTAL STUDIED	PERCENT STAFF
RM-A	102	14	13.7
IC-A	62	44	71.0
DP-A	8	4	50.0
MS-A	33	6	18.2
PM/ML-A	10	3	30.0
MR-A	20	9	45.0
AES	209	11	5.3

APPENDIX B

ARB QUESTIONNAIRE

The purpose of this survey is to look at how your organization conducts its Academic Review Boards. We are interested in understanding how decisions are made. In other words, what kind of information do you use in making a decision? We are particularly interested in the importance you give to different factors and any unique factors you may consider. This will allow us to better understand the decision making process.

Your answers are anonymous, your command will not have any access to these questionnaires, and any information reported will be aggregated so no one answer will be singled out.

GENERAL INFORMATION

Rank/Paygrade _____

Years of service _____

Time at this command _____

Approximate number of times you have sat on an ARB _____

Approximate number of times you have served as chair of an ARB _____

THE ARB PROCESS

Please consider the specific types of decisions described below and in the spaces next to each factor indicate the following:

a. How important each type of information is in leading to that particular decision. Use a 1-5 scale where
1 = not at all important; rarely used
2 = somewhat important
3 = average importance
4 = very important
5 = extremely important; critical factor

b. The rank of each of the factors compared to the others for that particular decision. You will have ranks 1-9 if you use only the factors we have suggested, or more if you can think of factors to add on that we have neglected to include. We encourage you strongly to try to add factors anywhere you can to make sure we have an accurate understanding of the ARB process.

1. For your first set of ratings and rankings, consider a typical situation (we know there are unique situations, try to focus on the average) in which the board decides that a student should be **setback for academic reasons.** Now evaluate how important the following factors were in helping you reach this decision:

	Importance	Rank
Academic record	____	____
Military record	____	____
Personal information about the student	____	____
ASVAB scores	____	____
Amount of night study	____	____
Recommendations made to the board	____	____
Your professional judgment about whether this person will make a good sailor	____	____
Student attitude/motivation	____	____
High school graduate (or not)	____	____
Other:_____		
_____	____	____

_____	____	____

2. For the next set of ratings and rankings, consider the situation in which the decision is made to **setback the student for non-academic reasons.**

	Importance	Rank
Academic record	____	____
Military record	____	____
Personal information about the student	____	____
ASVAB scores	____	____
Amount of night study	____	____
Recommendations made to the board	____	____
Professional judgement about whether this person will make a good sailor	____	____
Student attitude/motivation	____	____
High school graduate (or not)	____	____
Other:_____		
_____	____	____

_____	____	____

3. Now consider the situation in which the decision is made to **drop a student from training for academic reasons.**

	Importance	Rank
Academic record	____	____
Military record	____	____
Personal information about the student	____	____
ASVAB Scores	____	____
Amount of night study	____	____
Recommendations made to the board	____	____

Professional judgment about whether this person will make a good sailor	____	____
Student attitude/motivation	____	____
High school graduate (or not)	____	____
Other_____		
_____	____	____

_____	____	____

4. Now consider the situation in which the board decides to **drop a student from training for non-academic reasons.**

	Importance	Rank
Academic record	____	____
Military record	____	____
Personal information about the student	____	____
ASVAB scores	____	____
Amount of night study	____	____
Recommendations made to the board	____	____
Professional judgment about whether this person will make a good sailor	____	____
Student attitude/motivation	____	____
High school graduate (or not)	____	____
Other_____		
_____	____	____

_____	____	____

5. What kind of personal information about the student might help you make a decision during an ARB?

6. Do ASVAB scores help you determine whether a student's academic problems are real or due to lack of motivation?

7. If you have two students with academic problems and everything is the same about these students except that one has average ASVAB scores and the other's are high, are you

(circle your answer)

a. Equally likely to attrite both
b. More likely to attrite the student with average ASVABs
c. More likely to attrite the student with high ASVABs

8. How do you judge whether someone will make a good sailor?

9. How do you judge motivation (besides night study)? What kinds of questions do you ask to determine motivational problems?

What are some of the things that students say that would lead you to think that a student has a motivational (vice academic) problem?

10. What questions do you ask before or during an ARB to get information about the student that is not reflected in the records?

11. During the interview with a student, what might convince you to vote to attrite instead of setback?

12. Assume that you have only the academic record of a student coming to a board and that you can have only two other sources of information to make your decision. What would those two other factors be?

13. During an ARB, about how much time is spent on each student?
Give a range (max/min) and an average.

14. About how often are there disagreements among the board members in arriving at a decision? Give a percentage.

15. Briefly note the most common causes of disagreement and the ways in which they might be resolved.

16. During the ARB, when one member has more influence than the others in shaping the decision, is this because that member is

(circle your answer)

a. More experienced in the ARB process
b. More familiar with the student at the board
c. Most senior
d. A naturally dominant personality

About what percent of the time is there one person who dominates the board processes for any of these reasons?
_____ percent.

17. After any disagreements are discussed and a decision has been made, indicate the percent of the time you feel

a. Satisfied with the decision made: _____ percent.
b. That you still disagree with the decision: ___ percent.

18. Where did you learn how to participate in academic review boards? List all sources and check the one that provided you with the most/best information.

STUDENT ACTION CODES

19. Which of the SACs are confusing or hard to use in any way, and why?

20. If you could add more SACs to those you have available to you (in order to increase the accuracy of the system), what would they be?

21. Is there any reason you avoid using particular codes? Which ones, and why?

22. Is there any reason you would lean toward using either an academic or non-academic drop code for a person who appeared to be about equally unable and unmotivated to complete the course?

Which type code would you use and why?

SCHOOL INFORMATION

23. What are the most common causes of attrition at this school?

24. In the time that you have been here, has attrition gone up, down, or stayed about the same?

If up, why?

If down, why?

25. How much communication is there here between the Military Training Divisions and the academic sections on student progress?

(circle one)

a. None
b. Occasional
c. Considerable

26. From what you have seen, about what percentage of students with waivers are eventually dropped from training?

About _____ percent.

27. What is the maximum number of setbacks you would give **any** student?

Is that number based on your own feelings, or guidance from your command?

28. In consideration of what your students will have to do when they eventually go out to perform in their rating, is the curriculum here

(circle your answer)

a. too hard
b. too easy
c. about right

29. About how often do you think the problems leading to attrition are a result of a student having unrealistic/ inaccurate expectations of what the job/rating involves? Give a percentage that reflects your best guess.

_____ percent.

30. At this point, please add anything that we have not included that will help us to have a complete understanding of ARBs, student action codes, and the way you do business at this school.

THANK YOU FOR YOUR TIME.

APPENDIX C

SETBACK FOR ACADEMIC REASONS
BY SCHOOL GROUP

Student Factor	RM-A	IC/DP-A	3300	AES
acadrec	1/2.39	2/2.34	2/3.89	2/3.23
milrec	8/6.82	6/5.55	7/5.64	6/4.82
persinfo	3/4.18	4/4.98	5/4.69	7/5.77
asvab	6/5.43	8/5.96	8/6.78	8/7.50
nghtstdy	5/4.93	3/4.92	3/4.28	3/4.18
rectobrd	4/4.39	7/5.71	4/4.53	4/4.36
prfjdgmnt	7/6.04	5/5.30	6/4.92	5/4.68
stdtmot	2/3.07	1/2.29	1/2.19	1/2.27
hsdg	9/7.75	9/7.95	9/8.08	9/8.18
N	14	46	18	11
df	8	8	8	8
Friedman's Chi square	44 24	152.81	55.26	42.18
Kendall's coefficient	.45	.46	.43	.54
Chi square	50.60	169.21	62.40	47.30

APPENDIX D

DROP FOR ACADEMIC REASONS
BY SCHOOL GROUP

Student Factor	RM-A	IC/DP-A	3300	AES
acadrec	1/2.38	1/2.11	1/1.94	2/3.14
milrec	7/6.12	7/5.51	7/6.03	7/6.23
persinfo	4/5.08	4/5.10	4/4.75	6/5.23
asvab	8/6.35	8/6.09	8/7.00	8/7.09
nghtstdy	5/5.31	3/4.61	3/4.17	4/3.95
rectobrd	3/3.81	5/5.34	6/5.14	3/3.82
prfjdgmnt	6/5.65	6/5.49	5/5.06	5/5.00
stdtmot	2/2.62	2/2.48	2/2.83	1/2.23
hsdg	9/7.69	9/8.28	9/8.08	9/8.32
N	13	46	18	11
df	8	8	8	8
Friedman's Chi square	42.95	168.37	70.49	44.87
Kendall's coefficient	.47	.52	.55	.59
Chi square	48.95	190.96	78.82	51.54

APPENDIX E

SETBACK FOR NONACADEMIC REASONS
BY SCHOOL GROUP

Student Factor	RM-A	IC/DP-A	3300	AES
acadrec	5/4.75	6/4.96	7/5.35	6/6.00
milrec	2/3.12	2/3.46	2/3.79	4/4.05
persinfo	4/4.12	3/3.68	3/4.09	5/4.25
asvab	8/7.12	8/7.33	8/7.38	8/7.85
nghtstdy	7/6.87	7/6.27	6/4.97	7/6.55
rectobrd	1/2.62	4/4.16	5/4.71	3/3.30
prfjdgmnt	6/5.62	5/4.84	4/4.21	2/3.05
stdtmot	3/3.50	1/2.44	1/3.35	1/1.80
hsdg	9/7.25	9/7.87	9/8.15	9/8.05
N	4	45	17	10
df	8	8	8	8
Friedman's Chi square	13.72*	160.02	58.28	53.13
Kendall's coefficient	.47	.50	.48	.73
Chi square	15.20*	179.13	65.33	58.65

* Nonsignificant $p > .05$

APPENDIX F

DROP FOR NONACADEMIC REASONS
BY SCHOOL GROUP

Student Factor	RM-A	IC/DP-A	3300	AES
acadrec	5/5.25	6/5.15	6/5.68	6/6.25
milrec	4/4.75	1/2.20	2/2.56	2/3.10
persinfo	1/2.25	3/3.79	3/3.88	3/3.45
asvab	8/7.75	8/7.26	8/7.47	8/7.90
nghtstdy	7/7.00	7/6.38	7/6.09	7/6.75
rectobrd	2/2.75	5/4.91	5/4.68	4/3.44
prfjdgmnt	5/5.25	4/4.66	4/4.26	5/3.90
stdtmot	3/3.25	2/2.29	1/2.21	1/2.10
hsdg	9/7.75	9/8.35	9/8.18	9/8.10
N	2	46	17	10
df	8	8	8	8
Friedman's Chi square	9.73*	214.75	75.92	54.24
Kendall's coefficient	.79	.65	.62	.77
Chi square	12.69*	237.66	84.50	61.46

* Nonsignificant p > .05

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